

*C1*

*A32*

24. The method of claim 23 wherein the carboxylic acid groups and phosphate groups of the peptides are initially protected with an amine group that forms amide bonds with carboxylic acid groups and phosphoramido bonds with phosphates and wherein the phosphate groups are selectively deprotected by selective cleavage of the phosphoramido bonds.

*A33*

49. The method of claim 48 wherein the samples are protein digests containing peptides and the sequence of the phosphopeptide detected is used to identify the protein from which the phosphopeptide is derived.

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*Sub B1F*

65. The kit of claim 53 further comprising one or more enzymes for carrying out a peptide digest.

66. The kit of claim 53 which comprises:

one or more enzymes for carrying out a peptide digest;

one or more protective groups that react with carboxylic acid or carboxylic acid ester groups and with a phosphate group;

one or more protective groups that react with the amine groups in the peptides;

one or more reagents for selectively cleaving a phosphoramido bond in the presence of amide bonds to generate free phosphates; and

one or more labels which carry a functional group for selectively reacting with free phosphate groups.

Please replace claim 67 with the following:

67. The kit of claim 53 which comprises:

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one or more enzymes for carrying out a peptide digest;

one or more protective groups that reacts with the amine groups in the peptides;

one or more protective groups that react with carboxylic acid or carboxylic acid ester groups and with a phosphate group;

one or more reagents for selectively cleaving a phosphoramido bond in the presence of amide bonds to generate free phosphates; and

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one or more linkers which carry a functional group for selectively reacting with free phosphate groups and carry a reactive group or a latent reactive group for reacting with a solid support material;

B4

one or more solid support materials to which the reactive group or the latent reactive group can be attached; and

one or more reagents for cleaving a phosphopeptide from a solid support material.

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Please add the following new claims:

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A35

--68. The method of claim 1 further comprising a step of protecting the amine groups in the peptide or protein prior to step a.

69. The method of claim 68 wherein the amine groups are protected with t-boc or f-moc.

70. The method of claim 22 further comprising a step of protecting the amine groups in the peptide or protein prior to step a.